Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A system for software maintenance of a network access device, said system comprising:

(a) an access point device for making a wireless connection between a mobile computer and a communications network, said device including (i) a memory of software containing first device management software for providing a device management function; and (ii) software loading apparatus for automatically loading second software through said communications network for replacing said first software, said device configured to request and receive a version code of said second software through said communications network and directly begins loading upon checking that said first software requires replacement due to a comparison determining the first software contains code that is different from the second software, without manual maintenance by a user such that the access point device is self-maintaining.

2. (currently amended) A system as recited in claim 1 further comprising a server including apparatus for receiving data input from a computer for installation and storing said second software for said loading by said software loading apparatus through said communications network.

3. (previously presented) A system as recited in claim 2 wherein said device further includes version checker apparatus for checking a version of said second software against a version of said first software.

4. (original) A system as recited in claim 3 further comprising first authentication apparatus for authenticating an identity of said server to said device.

5. (original) A system as recited in claim 4 further comprising second authentication apparatus for authenticating an identity of said device to said server.

6. (previously presented) A system as recited in claim 3 further comprising automatic apparatus for automatically performing said checking and said loading at a predetermined time.

7. (original) A system as recited in claim 6 further comprising shut-down apparatus for stopping an acceptance of new connections prior to said loading.

8. (previously presented) A system as recited in claim 1 wherein said loading is performed automatically at a predetermined time.

9. (currently amended) A method of maintaining software on a communication network access device, hereinafter referred to as "device", said method comprising:

(a) first storing a first device management software in a memory in said device;

(b) periodically checking availability of a second device management software by said device requesting and receiving a version code of said second device management software through said communication network and comparing a version of said second device management software against a version of said first device management software; and

(c) for the version of said second device management software that is a different version from said first ~~software~~ device management software, automatically loading the second device management software in said memory, immediately following said checking, through said communication network for replacing said first device management software such that the device is self-maintaining.

10. (currently amended) A method as recited in claim 9 further comprising inputting upgrade data to a server from a computer, said data for installing and storing said second device management software in said server, said server in communication with said device through said communication network, and said server providing said version code of the stored second device management software to said device in response to receiving the request for said version code from said device.

11. (cancelled)

12. (previously presented) A method as recited in claim 10 further comprising first authenticating an identity of said server to said device.

13. (original) A method as recited in claim 12 further comprising second authenticating an identity of said device to said server.

14. (previously presented) A method as recited in claim 10 further comprising automatically performing said checking and said loading at a predetermined time without manual maintenance from a user.

15. (original) A method as recited in claim 14 further comprising stopping an acceptance of a new connection prior to said loading.

16. (previously presented) A method as recited in claim 9 further comprising automatically performing said loading at a predetermined time without manual maintenance from a user.

17. (currently amended) A system providing access to a communication network comprising:

(a) an access point device for making a wireless connection between a mobile user and a source network, said access point device including (i) first device management software for providing a device management function; (ii) access device loading apparatus for loading second device management software through a communication network for replacing said first software due to a comparison determining the first software contains code that is different from the second software, without manual maintenance by a user such that the access point device is self-maintaining;

(b) user authorization server apparatus for authorizing a mobile user to access the communication network through said access point device and said source network in which the mobile user is authorized through one or more embedded IDs generated by said source network into an embedded reserved field of a file; and

(c) remote maintenance server apparatus including apparatus for receiving and storing an upgrade to said first software from a network connected computer for creation of said second software, and for facilitating said loading in cooperation with said access point device.

18. (previously presented) A system as recited in claim 17 wherein said user authorization server apparatus includes

(a) source network server apparatus including apparatus for receiving a request from said mobile user to access said communication network, and for determining if said mobile user is currently authorized to access the communication network, and for a currently authorized mobile user to allow said authorized mobile user said access, and for an unauthorized mobile user, not to forward said request;

(b) redirection server apparatus for receiving from said source server said forwarded request by said unauthorized mobile user for communication network access, and for redirecting said request; and

(c) user authentication server apparatus for receiving said unauthorized user's request from said redirection server, and for authorizing said unauthorized mobile user to access said communication network; and

(d) gate keeper server apparatus for receiving an authorization from said authentication server and for informing said source network apparatus that said mobile user is to be allowed access to said communication network.

19. (previously presented) A system as recited in claim 17 wherein said access point device further includes version checker apparatus for checking a version of said second software against a version of said first software.

20. (original) A system as recited in claim 19 further comprising first authentication apparatus for authenticating an identity of said remote maintenance server to said access point device.

21. (original) A system as recited in claim 20 further comprising second authentication apparatus for authenticating an identity of said access point device to said remote maintenance server.

22. (previously presented) A system as recited in claim 19 further comprising apparatus for automatically performing said checking and said loading at a predetermined time.

23. (original) A system as recited in claim 22 further comprising shut-down apparatus for stopping an acceptance of new connections prior to said loading.

24. (previously presented) A system as recited in claim 17 wherein said loading is performed automatically at a predetermined time.